

وصف مقرر دراسي Course Description

متطلب متزامن	متطلب سابق	تأريخ	عملي	نظري	الساعات	اسم المقرر	رقم ورمز المقرر
Co-Req.	Pre-Req	TU	LB	LT	CR	Course Title	Course Code
331 كهر	-	-	2	-	1	معمل الآلات الكهربائية	332 كهر
EE 331	-	-	2	-	1	Electric Machines Laboratory	EE 332

محتويات المقرر:

الدائرة المكافئة للمحول؛ توصيل المحولات ثلاثية الطور ومشاكل التوافقية؛ الدائرة المكافئة للمحرك الحثي ثلاثي الطور وأحادي الطور؛ اختبار التحميل للمحرك الحثي؛ بدء الحركة للمحرك الحثي أحادي الطور؛ الدائرة المكافئة للمولد المتزامن؛ أداء المحرك المتزامن؛ الخصائص الطرفية لآلة التيار المستمر.

Course Contents:

Equivalent circuit of transformers; Three-phase connections and harmonic problems; Equivalent circuit of three-phase and single-phase induction motors; Load testing of induction motors; Starting of single-phase induction motors; Equivalent circuit of synchronous machine: Performance of synchronous motors; Terminal characteristics of dc machines

Course Objectives:

1. Giving the student the chance to recognize the different machines which have been studied in the electrical machine courses, and teach them how to read the name plate data of the machines and implement it.
2. Teaching the students the essential experiments which are necessary to determine the parameters and the performance characteristics of the most used ac and dc machines
3. Emphasizing the concepts taught in the machine theoretical courses, and preparing them to do experimental work in their graduation project when necessary.
4. Preparing the students to work in the field of operation, control and maintenance of the electrical machines.
5. Enabling the graduated engineers to carry out the necessary tests after manufacturing the machines, or the commissioning tests in the sites.

Evaluation Methods:

1. Midterm exam.
2. Quizzes
3. Lab. Reports
4. Final exam

Text Book and References:

Textbook: S. J. Chapman, "Electric Machinery Fundamentals", McGraw Hill

Reference: SARMA, "Electric Machines-steady state theory and dynamic performance" WEST,